Synthetic jet modeling for flow control applications

Reference Type: Book Chapter
Author: Ferlauto, M.
Author: Marsilio, R.
Editor: Deconinck, Herman
Editor: Dick, E.
Primary Title: Synthetic Jet Actuator Modeling for Flow Control Applications
Book Title: Computational Fluid Dynamics 2006
Copyright: 2009
Publisher: Springer Berlin Heidelberg
Isbn: 978-3-540-92779-2
Subject: Engineering
Start Page: 573
End Page: 578
Url: http://dx.doi.org/10.1007/978-3-540-92779-2_90
Doi: 10.1007/978-3-540-92779-2_90
Abstract: A numerical model of synthetic jet actuator, suitable for flow control simulations, is presented. The controlled flowfield is simulated by a standard CFD method for compressible RANS equations, while flow inside the actuator is reduced to a one-dimensional piston flow. The nonlinear matching between the two systems ensures conservation of the mass, momentum and energy.